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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/781,320

02/18/2004

Mark W. Jolley

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9435

22242

7590

07/14/2005

FITCH EVEN TABIN AND FLANNERY
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EXAMINER

BASINGER, SHERMAN D

ART UNIT

PAPER NUMBER

3617

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/781,320

Applicant(s)

JOLLEY, MARK W.

Examiner

Sherman D. Basinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-22 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 20 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The replacement sheet of drawings filed June 20, 2005 has been approved.

Response to Amendment

2. With regard to the amendment to the specification, applicant directed that new paragraph [0000.1] be entered before paragraph [0001]. However, applicant failed to number the paragraphs in the specification as originally filed; thus, there is not paragraph [0001]. The new paragraph filed June 20, 2005 has not been entered. This paragraph should be resubmitted and directions for the paragraph should request its entrance on page 1 of the specification between the title of the invention and the subtitle "Field".

Claim Rejections - 35 USC § 102

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 7-9, 15, 16, 17, 18, 19, 20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Teraoka.

Teraoka discloses a method of manufacturing a board, the method comprising
providing upper and lower sheets of material 17,

inserting the upper and lower sheets of material into an interior of a first mold cavity 12;
forming the upper and lower sheets of material to the interior of the first mold cavity
to form a shell (see figures 13 and 14);
filling the shell with an expandable material (see figure 15); and
preventing the shell from substantially deforming during filling with the expandable
material by inserting the shell into a second mold cavity different from the first mold
cavity (see column 9, line 53).

Teraoka also discloses that the method of manufacturing a board wherein the step of
forming the upper and lower sheets of material to the interior of the
mold cavity to form a shell includes
heating the upper and lower sheets of material (see air blower 19); and
forcing the upper and lower sheets of material against interior walls of the mold
cavity (see figure 13).

Teraoka also discloses wherein the step of forcing the upper and lower sheets of
material
against interior walls of the mold cavity includes at least one of drawing the upper and
lower sheets of material against the interior walls with a vacuum (see column 9, lines
15-20) and forcing the upper and
lower sheets of material against the interior walls with a pressure force between the
sheets (note air blower 19).

Teraoka also discloses that excess portions of the first and second sheets of material
after forming the shell are trimmed. Note the excess portions shown in figures 13 and

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14 and note in figure 15 that these excess portions have been removed by inherently trimming.

Teraoka also discloses in column 4, lines 65-end that graphics are applied to at least one of first and second sheets of material prior to the step of inserting the upper and lower sheets of material into an interior of a mold cavity.

Teraoka also discloses that the first and second sheets of material comprise at least one of polycarbonate, ABS and TPO (see column 6, line 8).

Teraoka discloses a method of manufacturing an apparatus, the method comprising means (see figures 11-14) for forming at least two sheets of material 17 to the interior of a first mold cavity to form a shell; means (see figure 15) for filling the shell with an expandable material in a second mold cavity (see column 9, line 53); and means for preventing the shell from substantially deforming during filling with the expandable material. Because the shell of Teraoka does not deform during filling with the expandable material, there inherently is means for preventing the shell from substantially deforming during filling with the expandable material.

In Teraoka the apparatus of figure 15 is considered to be a floatable board.

Teraoka discloses a board in figure 15 comprising a polymer shell having first and second sheets of material 17, the first and second

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sheets of material each having a perimeter shown at the top and bottom of the mold in figure 14, the perimeters of the first and second sheets of material being bonded together to form periphery edges of the board; and a core of a material 26 different than the material of the first and second sheets, the core substantially filling the interior 54 of the shell between the periphery edges and inherently having residual compressive stresses providing structural rigidity to the shell.

In Teraoka the material of the

core comprises at least one of polyurethane and polystyrene and the material of the polymer shell comprises at least one of polycarbonate, ABS and TPO (see column 6, lines 5-14).

Teraoka also discloses a method of manufacturing a board, the method comprising providing upper and lower sheets 17 of a generally rigid polymer material (ABS or polyethylene);

inserting the upper and lower sheets of material into an interior of a mold cavity (see figure 11);

forming the upper and lower sheets of material to the interior of the mold cavity to form a shell (see figure 14);

filling the shell with a expandable material 26 to form a generally rigid inner core; and preventing the shell from substantially deforming during filling with the expandable material. Because the shell does not deform during filling in figure 15, the step of preventing the shell from substantially deforming during filling with the expandable material is met.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teraoka.

Teraoka does not disclose that graphics are

disposed on the interior of the shell between the shell and the core. Teraoka does disclose in column 4, lines 65-end that a molded article having small letters can be molded precisely and faithfully according to the molding surface of the mold.

In view of this teaching, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to dispose graphics on the interior of the shell between the shell and the core 26.

Motivation to do so is to place letters for directing how to fill the shell with the core on the core inner surface.

6. Claims 2-5 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teraoka in view of Sanson et al.

Teraoka does not disclose that the step of inserting the upper and lower sheet of material into an interior of a mold cavity includes positioning the upper sheet of material above the lower sheet of material and clamping a perimeter of the upper sheet of material and a perimeter of the lower

sheet of material.

Note that in figure 4 of Sanson et al that the sheets of material 9 and 9' are inserted into an interior of a mold cavity includes positioning the upper sheet of material above the lower sheet of material and

clamping a perimeter of the upper sheet of material and a perimeter of the lower sheet of material.

In view of this teaching, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to insert the upper and lower sheet of material 17 of Teraoka into an interior of the mold cavity including positioning the upper sheet of material above the lower sheet of material and clamping a perimeter of the upper sheet of material and a perimeter of the lower sheet of material. Motivation to do so is to position the sheets as they would be positioned when they are placed into the wood mold for adding the foam 26.

Teraoka does not disclose providing a gasket between the perimeter of the upper sheet and the perimeter of the lower sheet. Note gasket 13 of Sanson et al. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to provide a gasket similar to 13 of Sanson et al between the sheets 17 of Teraoka. Motivation to do so is to provide a smooth and pleasing appearance to the edges of the solar heater body of Teraoka.

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Claim 4 is met by what is shown in figure 13 of Teraoka. Note that in figure 13 of Teraoka the spacing of at least a portion of the upper and lower sheets of material apart.

Claim 5 is met by the use of air blower 19 of Teraoka. With the use of blower 19 of Teraoka fluid is blown between the upper and lower sheets of material 17 for spacing at least a portion of the upper and lower sheets of material apart.

Teraoka discloses forming an aperture 22 in the shell; however, Teraoka does not disclose inserting a filling device through the aperture and passing the expandable material 26 through the filling device and into the shell.

Sanson et al discloses the use of a filling device injection needle in column 5, line 61. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to inject the material 26 of Teraoka into cavity 54 of Teraoka through aperture 22. Motivation to do so is to make sure the cavity 54 of Teraoka is filled completely and easily.

In Teraoka the expandable material 26 is at least one of polyurethane and polystyrene.

With regard to claim 12, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to withdraw the filling device from within the shell while the shell

is being filled with the expandable material. Motivation to do so is to make sure the cavity 54 of Teraoka is completely filled.

Claim 13 is met by the **fitting** of the molded article of Teraoka into the wooden mold discussed in column 9, lines 50-55.

Claim 14 is met by blowing hot air into the mold with air blower 19 of Teraoka.

Response to Arguments

7. Applicant's arguments filed June 20, 2005 have been fully considered but they are not persuasive.

Applicant argues: Claim 1, and by dependency claims 2-4, 7 and 9, presently recite that the upper and lower sheets of material are formed to the interior of a first mold cavity to form a shell, and the shell is prevented from substantially deforming during filling with an expandable material by inserting the shell into a second mold cavity different from the first mold cavity.

Claim 17 presently recites means for forming at least two sheets of material to the interior of a first mold cavity to form a shell and means for filling the shell with an expandable material in a second mold cavity. Support for the present amendments to claims 1 and 17 can be found, for example, at page 10, lines 2-6, of the present application.

Sanson does not disclose the use of a first mold associated with forming and a

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second mold associated with filling. Instead, Sanson discloses the use of a single mold for both the forming and filling operations. Indeed, Sanson explicitly teaches away from the use of multiple molds by describing such methods as being disadvantageous: "A disadvantage of this arrangement lies in the fact that a separate operation and apparatus are required to provide the preliminary shaping of the sheets into their desired configured form, something which represents additional labor requirements and increased complexity of production equipment." (Col. 1, 11. 43-49.)

8. In rebuttal, applicant amended claims 1 and 17 to define the second mold. In view of the amending of claims 1 and 17, new grounds of rejection with Teraoka, of record, are set forth. Teraoka discloses the second mold as a wooden mold into which the sheets 17 are placed to inject foam 26 into the cavity 54. As such, claims 1 and 17 are not allowed.

9. Applicant argues: Claim 19 stands rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,423,000 to Teraoka. Applicant respectfully submits that claim 19 is not anticipated by Teraoka. The Office action identifies the polyurethane in hollow portion 54 of Teraoka as being the core, and first and second parisons 17 as being the sheets. However, the hollow portion 54 between the first and second parisons is only in a limited portion of the molded article, and does is not substantially filled, as presently recited in claim 19. Moreover, there is no disclosure in Teraoka of the polyurethane having residual compressive stresses providing structural rigidity to the parisons 17.

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10. In rebuttal, it is felt that the material 26 in cavity 54 does indeed substantially fill the interior of the shell between the periphery edges when the periphery edges are the inner and outer edges defining the cavity 54. Secondly, applicant uses polyurethane as his core and states that his core has residual compressive stresses. Since Teraoka likewise uses polyurethane as his core, there is no reason why the polyurethane used by Teraoka doesn't also have residual compressive stress providing structural rigidity to the parisons 17.

11. Applicant argues: Claim 21 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Teraoka. Given the above discussion of claim 19, from which claim 21 depends, it is respectfully submitted that claim 21 is not unpatentable over Teraoka.

12. In rebuttal, because claim 19 is still felt to be anticipated by Teraoka, the rejection of claim 21 likewise stands.

13. Applicant argues: Claims 5, 6, 8, 10-16 and 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Sanson in view of Teraoka. Given the above discussion of claim 1, from which claims 5, 6, 8, and 10-16 depend, it is respectfully submitted that claims 5, 6, 8, and 10-16 are not unpatentable over Sanson in view of Teraoka. In addition, given the above discussion of claim 19, from which claim 20 depends, it is respectfully submitted that claim 20 is not unpatentable over Sanson in view of Teraoka. Because applicant amended claims 1 and 17 to define the second mold, a new grounds of rejection with Teraoka is necessitated. Teraoka discloses the second mold in column 9, line 53. Further, the rejection of claim 19 with Teraoka stands; likewise, the rejection of claim 20 with Teraoka stands.

Conclusion

14. Applicant's amendments to claims 1, 17 and 19 and the filing of new claim 22 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sherman D. Basinger whose telephone number is 571-272-6679. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samuel J. Morano can be reached on 571-272-6684. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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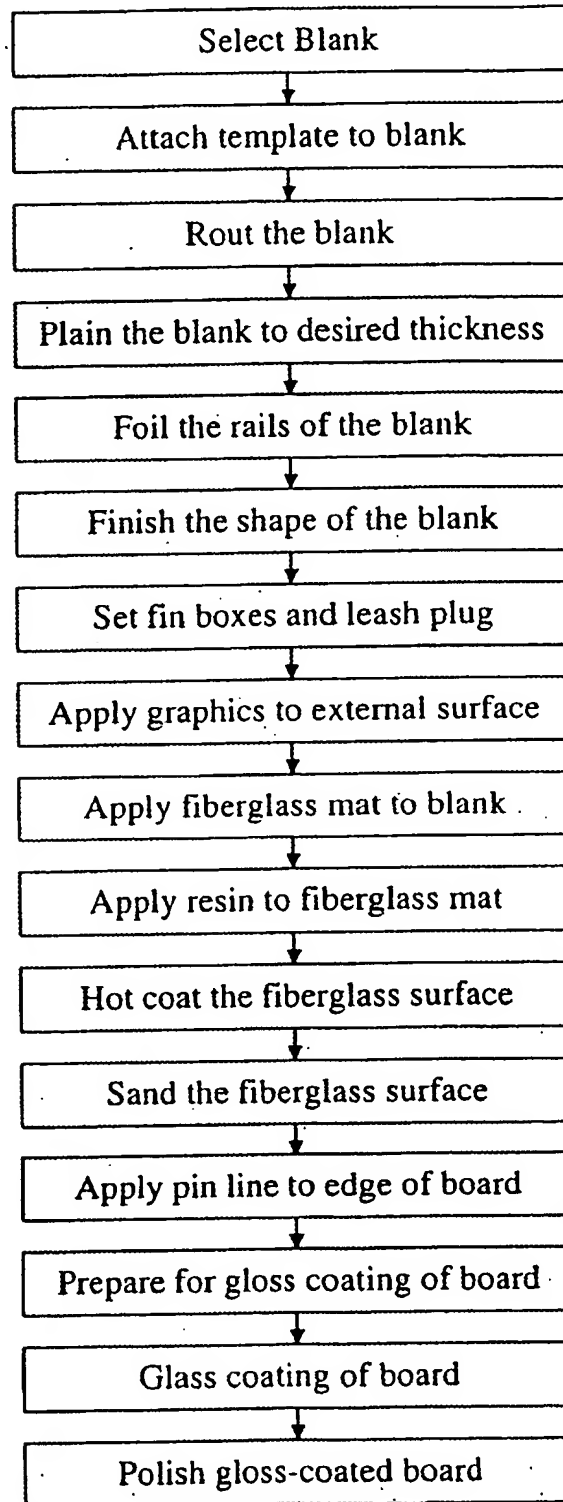
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Sherman D. Basinger
Primary Examiner
Art Unit 3617


7/11/05

4/4

FIG. 12



Prior Art

*approved
for
7/11/05*